United States Department of Commerce
National Oceanic and Atmospheric Administration
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Advancing NOAA's Priorities through Regional Collaboration

NOAA's strength and capacity derive from strong collaborative ties among its programs and with its partners and customers. Through improved outreach and communications, NOAA can improve awareness and delivery of our services and also develop them from the bottom up to ensure they best serve the needs of the public. It is at the regional scale that NOAA can blend the place-based needs of customers and partners with its priorities and responsibilities as a federal agency.

Ensuring consistent, high-value services to NOAA customers is more important than ever, especially given recent public attention to the state of the oceans, the effects of climate change, and impacts of natural disasters. Improving the value and consistency of NOAA's services increasingly requires regional collaboration and service integration. Effective integration, itself, depends greatly upon improving the quality, productivity and value of our relationships with partners and customers. Strengthening these relationships also is essential to the "oneNOAA" principles of improved internal communications and efficiency.

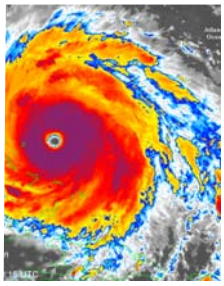
In 2002 and 2003, the NOAA Administrator established five regional pilot programs to improve coordination within the agency and raise NOAA's visibility to its constituents. NOAA is now taking the opportunity to build upon these existing coordination efforts by integrating program activities while working with partners and customers—that is, by combining internal regional *coordination* with external regional *collaboration*.

Regional Collaboration will engage diverse programs across the agency, as well as agency partners in each region, to address regionally-distinct priorities with the full breadth of NOAA's abilities. As part of this effort, NOAA has identified three strategic priorities to advance through regional collaboration. Each is inherently regional, involving geographically-specific problems, solutions, partners, and capabilities. Blended with regionally-distinct priorities, these areas offer the greatest potential to yield immediate benefits from regional collaboration.

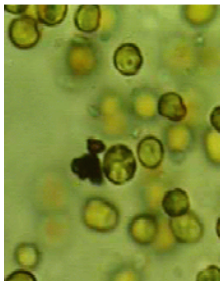
The priority areas for Regional Collaboration are:

Regionally-Distinct Priorities and Capabilities. NOAA is already actively engaged in many high priority partnership activities in the regions. This regional collaboration effort will strengthen NOAA's ability to support those existing activities and, in addition, develop new ways to add value in the regions.

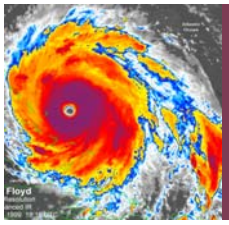
Hazard Resilient Coastal Communities. NOAA is essential to mitigating the escalating economic, environmental, and human costs of hurricanes, flooding and coastal storm surge, tsunamis, and the expected long-term rise in sea levels. NOAA helps communities prepare for, respond to, and rebound from coastal hazards.



Integrated Ecosystem Assessments. Management of coastal and marine ecosystems will be improved by integrating physical, biological, and social information. This will offer the consistent view of ecosystem status and dynamics needed for each management sector to understand the activities and impacts of others.



Integrated Water Resource Services. NOAA has always held the nation's lead role in flood forecasting for public safety. Advanced capabilities in the broader realm of drought and water resources span agency research and operations and must be coordinated to adequately address regionally-defined challenges.



Hazard Resilient Coastal Communities

Integrating NOAA's hazard prediction and response activities will help the nation's increasingly vulnerable coastal communities to prepare for, respond to, and rebound from natural disasters.

What is Resilience?

As defined by the National Science and Technology Council's Subcommittee for Disaster Reduction, "resilience" is the capacity of a system, community, or society, potentially exposed to hazards, to adapt by resisting or changing in order to reach and maintain an acceptable level of functioning and structure. This is determined by the degree to which the social system is capable of organizing itself to increase its capacity for learning from past disasters for better future protection and to improve risk reduction measures.

Why Focus on Coastal Hazards?

Our nation has the largest coast line in the world. American communities exist along the coasts of the Atlantic, Pacific, and even Arctic oceans, as well as the Gulf of Mexico and the Great Lakes. These communities are growing fast. In 2003, approximately 153 million people (53% of the nation's population) lived in the 673 coastal counties. Coastal populations have increased by 33 million people since 1980, and are expected to increase by another 12 million by 2015.

Just as coastal areas are subject to the stresses of this community growth, they are also subject to the most extreme economic and security threats that nature has to offer: hurricanes, tsunamis, contaminant releases, inundation from rising sea and lake levels, erosion, coastal storms, and associated flooding. As communities vulnerable to hazards increase in size, so do the risks posed to them. To reduce these risks, NOAA must improve internal coordination of its capabilities and external coordination with federal, state, and local authorities.

What Can NOAA Do?

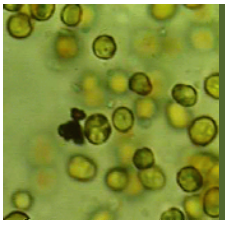
NOAA believes that improving the scientific and technical foundation to support hazard resilient coastal communities is a national priority, but recognizes that both hazards and communities have unique geographic dimensions. NOAA's resident expertise in dealing with natural hazards spans a diverse set of programs, offices and laboratories. The agency must coordinate its wide range of capabilities to meet the needs of communities in specific regional contexts.

Integrating its services to meet geographically-defined outcomes will require NOAA to identify specific coastal hazard risks, assess vulnerabilities, and increase public awareness of these vulnerabilities through outreach and education activities. It will require NOAA to work with partners to develop decision support and assessment tools, technology, and information resources, as well as disseminate information to resource managers, emergency workers, and local and state decision makers and train them to utilize these tools and provide best practices.

What Are the Desired Results?

A successful effort will result in coastal communities that are capable of preparing for coastal hazard events before they occur, responding to them when they occur, and rebounding quickly and efficiently after they occur. This will depend, in turn, upon how well local and state decision makers, emergency managers, urban planners, and coastal resource managers are informed about community hazard risks and mitigation techniques and their proficiency in employing NOAA's information and decision-support tools. Such essential improvements in NOAA's service to the nation can only be achieved through better coordination of all of NOAA's expertise with regional partners.

Fishing vessels deposited on Louisiana highway by Hurricane Katrina.



Integrated Ecosystem Assessments

By holistically synthesizing and analyzing information on physical, biological, and social processes, NOAA and its partners will provide a fundamental tool for successful ecosystem-based management.

What is an IEA?

An integrated ecosystem assessment (IEA) is a comprehensive account of an ecosystem's condition, stressors and drivers, and the potential for change in response to management options. It provides a "big picture" understanding of an ecosystem, its many components and functions (including humans and human activities), how they interact with each other and change over time, as well as how these changes effect lives, livelihoods and quality of life.

Typically, NOAA and other agencies provide individual, issue-based "state" and "pressure" indicators and forecasts in their coastal and marine management portfolios. IEAs compile, analyze and report information relevant to multiple species, processes, and stakeholder interests. IEAs are place-based; they integrate and synthesize various observations appropriate to a specific geographic area to identify synoptic trends in the ecosystem as a whole.

Why Develop IEAs?

NOAA collects a wide variety of physical, biological, and social information to fulfill its various mission responsibilities. Historically, these data were obtained to meet NOAA's requirements and support resource management or stewardship activities, such as fisheries management. However, to interpret complex interactions among physical, biological and social processes, it is necessary to link observations from many disciplines. Providing information through IEAs is more efficient than compiling all assessments by specialized areas of expertise. IEAS also allow for scientific integration and exploration of alternative hypotheses for observed changes that may be difficult if assessments are done individually.

Regional IEAs are a necessary step for NOAA and its partners as we implement an ecosystem approach to ocean, coastal, and lake management. They provide a framework that will foster multi-agency approaches to setting priorities, accomplishing shared and individual agency mandates, and meeting the needs of multiple stakeholders. IEAs offer a consistent view of ecosystem status and dynamics to inform the management sector about the activities and impacts of others.

What Can NOAA Do?

Compilation of IEAs is inherently multidisciplinary and implies collaboration across NOAA and with other partners. The process of developing IEAs requires a collaborative system, since no one agency or entity has all the information and expertise required. IEAs must be developed with stakeholders to include information that would serve as the basis for more comprehensive forecasting and evaluation of management scenarios. IEAs facilitate the process of bringing diverse stakeholder groups together to consider tradeoffs inherent in making coastal and marine resource management decisions.

What Are the Desired Results?

IEAs should forge stronger links among stakeholders, managers, and the research community. A dynamic, web-based IEA would include indices that are updated regularly and automatically, and ecosystem component- and community-specific elements updated periodically. It could be accessed by researchers for data products for models and assessments, and by managers and the public to get the current ecosystem status with quantified uncertainties and risk assessments for specific decisions.

Assessment of any ecosystem requires the integration of multiple factors.

Integrated Water Resource Services

Through collaborative monitoring, prediction, risk assessment and communication, programmatic integration within NOAA and engagement with its partners will improve regional responses to periods of sustained drought and flood.

What are Integrated Water Resource Services?

NOAA must provide America's water resource and ecosystem managers with a dramatically greater amount of analytical and predictive information than it currently does. A modern vision for NOAA must look beyond the traditional river-focused forecast services toward broader drought and water resource services that extend into the watersheds, where people live and work.

An enhanced water information program would include research and development that yields models that couple freshwater, coastal, estuary, lake, and ocean waters. Integrating erosion, flood, riverine, hydrodynamic, wind, lake and ocean circulation, storm surge, and related processes will greatly improve hydrological forecast capabilities and our ability to manage national and global water resources. It is also a valuable first step toward integrating all of NOAA's weather, water and climate services.

Why Integrated Water Resource Services?

Water availability is internationally acknowledged as the great challenge of the 21st century. Regions in which water was once plentiful are now experiencing shortages. The National Research Council indicates that "in this century, the United States will be challenged to provide sufficient quantities of high-quality water to its growing population." Our freshwater supply is critically stressed by growing and migrating populations, urbanization, and climate change, especially along the coasts. The Great Lakes, which hold 90% of the U.S. freshwater supply, are at severely low levels, prompting U.S. Governors and Canadian Premiers to limit water diversion actions.

The Western Governors Association estimates that economic losses arising from the drought in the west are "billions of dollars." The 2006 report of the Western Governors Association stresses that "there is a need for more and better water information, specifically data on water use, efficiencies and water availability, to facilitate decision making. While there exists a substantial amount of data on streamflows, there is less data and less reliable information related to water quality, ground water, and rural water supplies. Funding the research, development and application of new water-resources-related technologies and fostering technology transfer opportunities are important to more efficient water resources management."

What Can NOAA Do?

To meet our nation's drought and water resource needs, NOAA must place priority on modernizing its water science and services, linking its forecast and ecosystem models, and increasing partnerships and education. All of this must be founded upon an agency commitment to support, at the regional-level, information exchange and knowledge transfer that transcends the traditional boundaries between NOAA divisions and between NOAA, its partners and customers.

What Are the Desired Results?

When these goals are achieved, NOAA partners and customers will be able to draw upon an expanded set of higher quality water resource services for drought and water resource management. They will have a better understanding of how water resource and aquatic ecosystem services tie into regional social and economic benefits. Through better communication and coordination, water agencies will be better equipped to meet their mission goals.

Excessively dry conditions increase communities' vulnerability to wildfires.

Collaborating with NOAA's Regional Partners and Customers

Effective regional service integration depends greatly upon improving the quality, productivity and, hence, the value of our relationships with partners and customers – particularly our support for policy-makers and public administrators.

Collaboration through Regional Outreach and Communications

NOAA envisions "*an informed society that uses a comprehensive understanding of the role of the oceans, coasts, and atmosphere in the global ecosystem to make the best social and economic decisions.*" Achieving this vision requires more than accurate and reliable scientific information; it also requires a knowledgeable public that understands that information, effectively applies it, and actively helps NOAA to further develop its information and management services.

To this end, NOAA must make better use of the knowledge that regional partners and customers have of their own circumstances and challenges. Additionally, NOAA must enable and encourage regional partners and customers to make better use of existing capabilities and take an active role in developing and applying new capabilities.

Regional outreach and communications build awareness of place-based environmental issues and the products and capabilities that NOAA and its partners can bring to bear on them. Conversely, it ensures that NOAA understands its customers' needs and incorporates them into decisions about new, integrated products and delivery systems. Through regional outreach and communications, NOAA engages in a dialog about what problems are most important, what information is needed, and which solutions are appropriate. Outreach and communications facilitate the transfer of knowledge of customer needs throughout NOAA, and knowledge of NOAA products and capabilities throughout the community.

What Can NOAA Do?

At both the regional and national level, NOAA can align its outreach efforts to strengthen existing and emerging partnerships and its communications efforts to respond more quickly and effectively to the highest priority needs of our regional customers. Within each region, NOAA can better combine and apply its regional scientific and technical capabilities with those of its partners. Across regions, NOAA can better integrate its national capabilities to improve their utility at different geographic scales. Working with its partners, NOAA can build awareness of the programmatic priorities and capabilities particular to each region while developing more effective solutions that leverage the unique strengths and assets of each partner.

A comprehensive approach to outreach and communications would improve NOAA's understanding of and relationship with the distinct partner and customer communities in each region, and would help NOAA effectively blend the regional dimensions of its national priorities with the distinct topography of customer needs in each region.

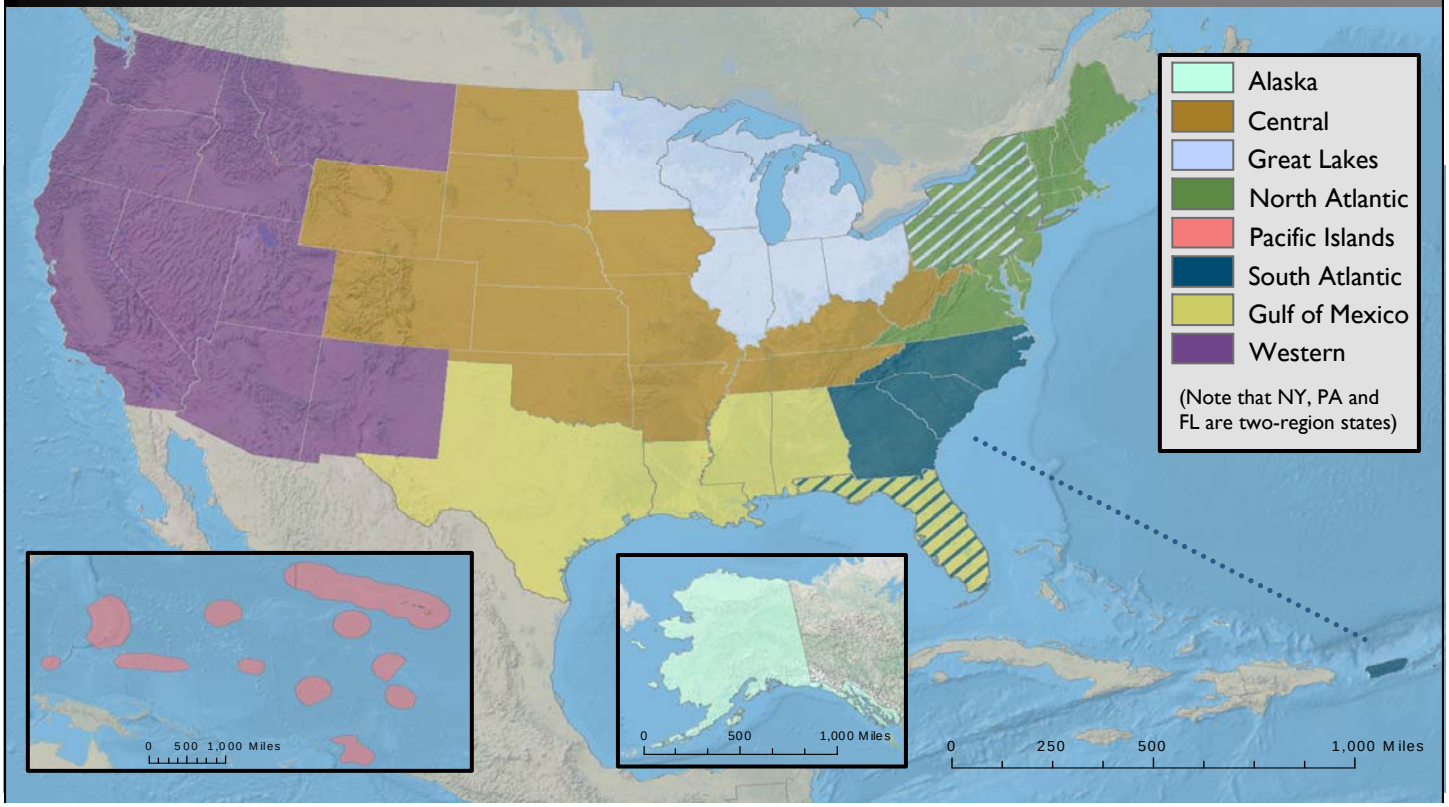
What Are the Desired Results?

Effective outreach and communications will improve NOAA's ability to collaborate with numerous and diverse partners and customers, as required to meet regionally-specific environmental challenges and opportunities. Improved outreach and communications will yield a more comprehensive external understanding of how NOAA's capabilities can be deployed in combination with our regional partners' assets to maximize regional benefits and achieve NOAA's mission. Partners and customers will bring the full range of NOAA products to bear on a wider range of applications to make wiser decisions about the use of resources in the region. Greater collaboration with partners and customers also will yield integrated products that are tailored to meet specific regional needs.

Vice Admiral Lautenbacher listens to partners in the Pacific region.

The Framework for NOAA Regional Collaboration

NOAA has developed the regional framework below to foster stronger collaborative ties internally, and with its partners and customers.



Why Regional Collaboration?

Regional Collaboration will improve our value to customers by identifying and applying NOAA's full range of capabilities, within and across regions. It will also allow us to design the best solutions to address geographically specific problems. This effort will use existing authority and accountability structures and does not entail changes to NOAA's organizational structure.

How Will Regional Collaboration Work?

NOAA's leadership is committed to Regional Collaboration as an approach to engaging partners and customers and delivering NOAA services. A senior leadership team has been established to guide the efforts of regional and priority area teams as they engage with external partners to develop and implement strategies that address the following priorities in the regions: hazard resilience coastal communities, integrated ecosystem assessments, and integrated water resource services. Achieving NOAA's goals for regional collaboration will require a multi-year effort with regular evaluations and adjustments.

How Was the Regional Framework Designed?

A NOAA-wide working group developed the geographic framework above as an initial, flexible basis for regional collaboration. The objectives were to promote "oneNOAA" thinking, provide an organizing principle to encourage cross-NOAA integration, and provide focus for targeted, effective outreach.

The working group considered not only the existing structure of NOAA capabilities and existing regional partnerships, but also how our stakeholders work together and their opportunities for working with NOAA. It designed the regional framework with several explicit criteria in mind: public perception of regional identity, alignment with existing NOAA capabilities and with regional partners, ecosystem-related boundaries, federal and state jurisdictions, size-manageability of regions, and the geographic dimensions of the programmatic priority areas.

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For more information, please contact the NOAA Program Planning & Integration: 301.713.1632 - ppi@noaa.gov - www.ppi.noaa.gov